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A non-commutative Yosida-Hewitt theorem and convex sets of measurable operators closed locally in measure

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Abstract

We present a non-commutative extension of the classical Yosida-Hewitt decomposition of a finitely additive measure into its σ-additive and singular parts. Several applications are given to the characterisation of bounded convex sets in Banach spaces of measurable operators which are closed locally in measure. © Springer 2005.

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Köthe duality, Local convergence in measure, Measurable operators, Non-commutative Banach function spaces, Singular functionals